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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1711

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11

Please find below and/or attached an Office communication concerning this application or proceeding.

T.D-11

Office Action Summary

Application No.

09/546,735

Applicant(s)

LUEERS ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,20-23,25 and 27-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10,20-23,25 and 27-40 is/are rejected.
- 7) ☒ Claim(s) 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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***Irradiated Papers***

The papers filed on January 24, 2002 (certificate of mailing dated December 17, 2001 ) have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of the damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

**COPY OF PAPERS  
ORIGINALLY FILED**

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If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquire about the completeness or accuracy of the Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

***Response to Amendment***

The amendment filed 01-24-2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: With respect to claims 6 and 7 , the examiner has not found a disclosure of a preferred particle size from 2 to 6 microns in the specification. The specification discloses from 2 to 5 microns as the preferred particle size. With respect to claim 41, the examiner has not found any disclosure of a coating

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composition comprising an amine-modified polyether acrylate and a matting agent component in an amount of about 12% by weight or less.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Response to Arguments***

Applicant's arguments filed 01-24-2002 have been fully considered but they are not persuasive.

Applicant argues that WO '030 only discloses matting agents containing wax in amounts up to 15% by weight of the silica. Applicant has amended the instant claims to require a wax content in the range of about 18 to 30 % by weight of the silica or of the silica plus wax matting agent (see the rejection under 35 USC 112 above). It is not clear whether the "total silica composition" set forth in the instant claims refers to silica alone or to wax coated silica. However, in response to the amendment, the rejection under 35 USC 102 is withdrawn.

Applicant argues that Aldcroft et al disclose examples wherein wax amounts up to 10% are used with a silica particle size of 6 microns and suggest that best results are obtained when using wax contents in the range of 5-15 % and, therefore, do not anticipate the instant claims. This argument is not persuasive because the disclosure of Aldcroft et al is not limited to the examples or to the best results. Aldcroft et al teach mean particle size, % wax content and silica pore volume overlapping the instantly claimed ranges for each property. Unexpected results are not considered where anticipation is the grounds for rejection.

Applicant argues that the prior art does not teach the unexpected benefits of the combination of matting agent properties in matting radiation curable coatings and that applicant has provided data to show better matting efficiency. The data presented in the tables and graphs in the instant specification has been considered and is considered persuasive of unexpected results obtained wherein wax coated silica matting agents according to the instant invention are employed in radiation curable coating compositions. The radiation curable compositions are represented by a urethane acrylate or an amine-modified polyether

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acrylate, each containing a photoinitiator. Comp 1 and Comp 3 are considered representative of the wax treated silica disclosed by WO '030. Comp 1, Comp 2, Comp 3 and Syloid ED30 are each considered representative of the "conventional matting agent" taught by WO '240. Applicant's data shows that better matting efficiency is obtained for the example according to the invention wherein the properties of the wax treated silica has an average particle size of 3.7, pore volume of 1.10 ml/g and wax content of 20% and wherein the wax coated silica is employed in the urethane acrylate or amine-modified polyether acrylate composition. The data is considered sufficient to obviate a rejection of claims as being obvious over WO 93/21240 in view of WO '030 or of Aldcroft et al. However, the data is not considered sufficient to obviate the rejection over WO '030 set forth below. The showing is not representative of the radiation curable compositions disclosed by WO '030 or commensurate in scope with the instant claims. Claims 20-23,25 and 27-41 include a wax content of about 18 % to 30 % and an average particle size from about 2 to about 6 microns and a silica having a pore volume from 0.8 to 1.4 cc/g. There is no data to show the criticality of 18% wax compared with 15% wax or of 2-6 microns average particle size compared with 4-12 microns or of 0.8-1.4 ml/g pore volume compared with 1-2 ml/g pore size taught by WO '030.

New grounds of rejection are set forth below.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the subject matter of original claim 2, specifically 18-22% by weight for the wax content in the silica matting agent, lacks antecedent basis in the body of the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 41 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a coating composition comprising an amine-modified polyether acrylate and a wax-treated silica matting agent having a maximum pore volume of 1.4 ml/g and a wax content of at least 15 % and a maximum of 30% by weight and a medium particle size in the range of 2.0 –12.0 microns, does not reasonably provide enablement for a coating composition comprising an amine-modified polyether acrylate and any known matting agent component in an amount of about 12% by weight or less. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. See page 4, lines 18-24, page 9 and Table 3.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10, 20-23, 25 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear from the phrase “wax content... of the total silica composition” that the “about 18 to 30 % by weight” or “15 to 30% by weight” (in claim 34) wax is the percent by weight of wax in the “silica matting agent”. See page 4. UV curable substances are not considered to be

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excluded from “the total silica composition” recited in claim 1. It is suggested that “total silica composition” be replaced with “total silica matting agent”. See claims 1, 20 and 34.

Claims 6 and 7: the examiner has not found a disclosure of a particle size from 2 to 6 microns in the specification to support the recitation in claim 6-7. The specification discloses from 2 to 5 microns as the particle size.

Claim 30, 34 and 38: it is not clear what is meant by “curable component comprises acrylate”. If applicant intends to set forth “acrylate-containing compounds” as disclosed on page 7, it should be so stated.

Claims 29 and 37 should clearly recite that a photoinitiator is employed as the “curing initiator”.

Claim 32, 33, 40 and 41: It is suggested that “coating thereto” be changed to “coating thereon” or “coating applied thereto”.

Claims 31, 39, 40, 41: It is not clear from the claim language what is meant by “prepared from a coating”. How is the coating “prepared”? It is suggested that the claims should recite a coating obtained by curing (polymerizing) a composition of claim ...”. It is suggested that claim 41 recite “substrate and coating thereon obtained by curing (polymerizing) a composition which comprises...”. The reasons are that it is the composition that comprises the amine-modified polyether acrylate and that the acrylate compounds are polymerized to obtain the coating.

### ***Claim Rejections - 35 USC § 102/103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Aldcroft et al (5,326,395). Aldcroft et al disclose a wax coated silica matting agent wherein the pore volume is between

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0.8 to 2.5 cc/g, the particle size is between 5-9 microns and the wax content is from 5-20% w/w based on the weight of the silica to have the optimum effect. See column 2. The matting agent set forth in the instant claims is anticipated by wax coated silica disclosed by Aldcroft et al having the same properties as are recited in the instant claims. With respect to claim 2, the wax coated silica wherein the wax content is from 18-20% is anticipated. With respect to claims 6, 7 and 10, the wax coated silica wherein the size is about 5 microns is anticipated by Aldcroft et al (see column 2, lines 59-63).

Claims 20-23, 25 and 27-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/58030 in view of Aldcroft et al.

WO '030 discloses a wax-coated silica wherein the pore volume is between 1.0 and 2.0 ml/g, the average particle size is between 4.0 and 12.0 microns and the wax coating preferably represents 6 to 15% by weight of the uncoated silica. See page 5, lines 10-19. The properties of the instantly claimed matting agent and the disclosed wax-coated silica overlap with respect to particle size from 4 to 12 microns and pore volume from 1.0 to 1.4 ml/g. WO '030 teaches adding a matting monomer selected from vinyl ether monomers and acrylate monomers to provide a matting paste for a photocurable system comprising cycloaliphatic or bisphenol A epoxy resins. WO '030 teaches that the wax coating preferably represents 6 to 15 % by weight of the uncoated silica, while applicant claims a wax content of about 18 to 30% by weight of the total silica composition. It is not clear whether the "total silica composition" set forth in the instant claims refers to silica alone or to wax coated silica.

Aldcroft et al disclose a wax coated silica matting agent wherein the pore volume is between 0.8 to 2.5 cc/g, the particle size is between 5-9 microns and the wax content is from 5-20% w/w based on the weight of the silica to have the optimum effect. It would have been obvious to one skilled in the art at the time of the invention to employ a wax coated silica having a wax content from 18-20% w/w based on the weight of the silica disclosed by Aldcroft et al in the photocurable compositions disclosed by WO '030.



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One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful matting paste as taught by WO '030 because the silica matting agent disclosed by Aldcroft et al meets the pore volume, average particle size and wax content parameters disclosed by WO '030. WO '030 teaches that the wax coating preferably represents 6 to 15 % by weight of the weight of the uncoated silica, thus not limiting the weight % wax to 6 to 15%. Aldcroft et al provide motivation to employ wax coated silica having a higher percent of wax by teaching that the wax content of wax coated silica from 5-20% w/w based on the weight of the silica provides an optimum matting effect. With respect to claims 30, 34-40, it would have been obvious to one skilled in the art to select acrylate monomers to prepare a matting paste as taught by WO '030 because WO '030 teaches that either vinyl ether monomers or acrylate monomers are effective.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Berman whose telephone number is (703) 308-0040.

The fax number for this group is (703) 872-9310 or, for submissions after Final Rejection, (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist at telephone number (703) 308-0661.

S B  
3/26/02



Susan Berman  
Primary Examiner  
Art Unit 1711